

What is claimed is:

Sub A1

1. A device for analyzing the positional accuracy of a fold of a printed product conveyed in a shingle stream comprising:
sensors detecting a position of the fold relative to markings applied to the printed product.
2. The device as recited in claim 1 further comprising an evaluation device connected to the sensors for determining a time lag between two consecutive signals of at least one of the sensors, the signals corresponding to the markings.
3. The device as recited in claim 1 wherein the markings include at least two light or dark areas.
4. The device as recited in claim 3 wherein the markings are rectangular.
5. The device as recited in claim 3 wherein one of the light or dark areas is on one side of the printed product and the other of light or dark areas is on the other side of the printed product.
6. The device as recited in claim 2 wherein the sensors include two sensors assigned to the two of the markings, and the evaluation device determines the position of the fold by comparing a time lag measured for each marking.
7. The device as recited in claim 6 wherein the evaluation device ascertains the position of the fold as a function of the measured time lag multiplied by an instantaneous speed of the printed product.
8. The device as recited in claim 5 wherein the two light or dark areas are at the edges of the sides of the printed products.
9. The device as recited in claim 1 wherein the markings are imprinted at a fixed distance from a nominal fold line, the fixed distance being larger than a distance required for

detection and smaller than a non-overlapped free space of a printed product, so that a part of the marking of the printed product is covered and another part is not covered by another printed product

10. The device as recited in claim 1 wherein a length of the marking is selected so that a part of the marking is covered by following printing product.
11. The device as recited in claim 7 wherein the speed is determined as a function of a mean speed of the printed products conveyed on conveying elements, the mean speed being calculated by averaging time lag measurements for a plurality of successive printed products.
12. The device as recited in claim 11 wherein the evaluation device includes software for determining at least one of the mean speed, the time lag, and an analysis for determining the folding accuracy.
13. The device as recited in claim 12 wherein the analysis for determining the folding accuracy includes detection of at least one of non-central fold, oblique fold and completely incorrect fold errors.
14. The device as recited in claim 13 wherein the analysis is a function of the marking.
15. The device as recited in claim 14 wherein data for the folding accuracy is read out and utilized for correcting the position of the fold.
16. The device as recited in claim 12 wherein the software includes a closed-loop control circuit for controlling and correcting the position of the fold in the folding apparatus.
17. A method for analyzing the positional accuracy of a fold produced via a folding apparatus for printed products under a given configuration and at a given speed, comprising the following method steps:
 - imprinting markings onto the printed product to be folded;
 - folding the printed products in a folding apparatus;

conveying the folded printed products further as a shingle stream on a conveying element at a certain speed;

measuring a time lag between two successive markings of the printed products with the aid of sensors used for detecting contrasts, the sensors being located above the shingle stream;

storing and analyzing measured quantities via an evaluation device; and

outputting at least one of a folding accuracy and the measured quantities and/or correcting the position of the fold via adjustment of the folding apparatus.

18. A folding apparatus comprising a device for analyzing an accuracy of a fold produced via the folding apparatus under a given configuration at a given speed according to claim 1.